

16 October 2025

**Helix Exploration PLC**  
(*"Helix Exploration" or "Helix" or the "Company"*)

**Project Update at Rudyard Project - Hydrogen Potential and Mantle Helium Signature Confirmed**

Helix Exploration PLC, the helium exploration and development company with near-term production assets within the 'Montana Helium Fairway', is pleased to announce breakthrough scientific results from its flagship Rudyard Project.

An independent study by Dr. Michael Hofmann of AIM GeoAnalytics has confirmed that rock cuttings from the Rudyard wells contain the same minerals that naturally generate hydrogen deep within the Earth-including serpentine, olivine, and magnetite. These minerals occur in mafic and ultramafic rocks, which release hydrogen when they react with water under heat and pressure, underscoring significant potential for geological hydrogen generation at the Rudyard Project.

Complementing these findings, prior isotope analysis by Durham University revealed a  $^3\text{He}/^4\text{He}$  ratio of 0.74  $R_a$ , showing a measurable mantle helium component-which demonstrates the chemical fingerprint of deep-Earth fluids rising into the Rudyard system.

**Highlights**

- **Elevated Helium-isotope Signature:** Analysis from the Rudyard Project recorded a consistent  $^3\text{He}/^4\text{He}$  ratio of 0.74  $R_a$ , over 3,600% above average continental-crust values (0.02  $R_a$ ) representing some of the highest recorded in continental North America outside of Yellowstone with Helium-3 concentration averaging greater than 10 ppb.
- **Confirmed Mantle Contribution and Geological Implications:** Isotopic modelling suggests roughly 9% of Rudyard's helium originates from the mantle. This deep-Earth connection not only replenishes helium within the reservoir but also facilitates the water-rock reactions that generate natural hydrogen at depth - a key indicator of Rudyard's long-term potential as both a helium and hydrogen source.
- **Hydrogen Potential:** Geochemical results establish Rudyard as one of the few verified hydrogen-prone ultramafic systems in North America and has the potential to produce some of the world's cleanest hydrogen with zero CO<sub>2</sub> emissions.

**Background**

Nearly all hydrogen used today is made from Steam Methane Reforming (SMR) of natural gas, a process that releases large volumes of CO<sub>2</sub> and produces what is known as "grey hydrogen". By contrast, geological hydrogen is created naturally underground, requiring no fossil-fuel feedstock and emitting zero carbon when produced.

If confirmed at commercial scale, the hydrogen at Rudyard has the potential to represent one of the cleanest and most cost-effective hydrogen resource known on Earth-potentially meeting and exceeding the U.S. Department of Energy's "Hydrogen Shot" goal, which aims to reduce the cost of producing clean hydrogen to 1 per 1 kilogram within one decade (the 1:1:1 goal).

**Qualified Person Statement**

The technical information contained in this disclosure has been read and approved by James Weaver, P.E., who is a qualified Petroleum Engineer and acts as the Qualified Person under the AIM Rules - Note for Mining and Oil & Gas Companies. James Weaver is the Chief Executive Officer for Aeon Petroleum Consultants Corp. which has been retained by Helix Exploration plc to provide technical support.

Bo Sears, Chief Executive Officer of Helix Exploration, commented:

*"These results confirm that Rudyard sits above a deep-Earth hydrogen engine powered by ultramafic rocks and mantle gases. The science is clear: this is the type of system that can generate clean hydrogen naturally, without carbon emissions or expensive reforming plants. If developed successfully, it could deliver hydrogen at a cost and purity level that could surpass anything achieved through conventional means. We see this as a milestone not only for Helix but for the entire clean-energy sector."*

This announcement contains inside information for the purposes of the UK Market Abuse Regulation, and the Directors of the Company are responsible for the release of this announcement.

## Enquiries

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## Notes to Editors

Helix Exploration is a helium exploration company focused on the exploration and development of helium deposits within the 'Montana Helium Fairway'. Founded by industry experts with extensive experience of helium systems in the US, the Company listed in April 2024.

Helix is focused on production at its Rudyard Project in northern Montana, taking advantage of existing infrastructure and low-cost processing to target first gas in 2025. The Company has four production wells targeting up to 236ft Helium / Nitrogen gas in the Souris and Red River formations, flowing up to 3,800 Mcf/day at 1.2% helium. Rudyard field can support multiple production wells and has potential to generate net revenue of 115 - 220 million over a 12.5 year life of field.

Helix is committed to open and transparent communication with investors and the wider market as the project progresses through development into production.

*"Our approach is simple: build scale efficiently, develop resources strategically, and deliver near-term cash flow."* CEO - Bo Sears

The Company's Admission Document, and other information required pursuant to AIM Rule 26, is available on the Company's website at <https://www.helixexploration.com/>.

## Caution regarding forward looking statements

Certain statements in this announcement, are, or may be deemed to be, forward looking statements. Forward looking statements are identified by their use of terms and phrases such as "believe", "could", "should", "envisage", "estimate", "intend", "may", "plan", "potentially", "expect", "will" or the negative of those, variations or comparable expressions, including references to assumptions. These forward-looking statements are not based on historical facts but rather on the Directors' current expectations and assumptions regarding the Company's future growth, results of operations, performance, future capital and other expenditures (including the amount, nature and sources of funding thereof), competitive advantages, business prospects and opportunities. Such forward looking statements reflect the Directors' current beliefs and assumptions and are based on information currently available to the Directors.

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